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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,565	02/28/2002	Tushar Ramesh Shah	LUT 2 0068 Kutac 1-5	3939

7590 03/22/2006

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EXAMINER	
PHILPOTT, JUSTIN M	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/087,565	SHAH ET AL.	
	Examiner	Art Unit	
	Justin M. Philpott	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 April 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 April 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/28/02, 4/22/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 11 and 14 are objected to because of the following informalities: lines 4-6 of claim 11 are unclear since the phrase "which are unique to" precedes two elements without separating the elements; it appears that "which are unique to the service provider intermediate network to the private enterprise network" (lines 4-5) should be replaced with "~~which are~~ to be unique to the service provider intermediate network, and to the private enterprise network".

Additionally, "IP address" (claim 14, line 20) should be replaced with "IP addresses".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. US 2003/0118002 A1 by Bradd et al.

Regarding claim 1, Bradd teaches an Internet Protocol (IP) services entity (e.g., translating/routing entity 24/44/120, see FIGS. 2, 4, 6 and 7, see also paragraph 0038 wherein translating entity 24 comprises routing) that supports packetized voice traffic in the form of voice packets from a plurality of enterprises, wherein each enterprise has a plurality of endpoints and

more than one enterprise uses the same IP addresses (e.g., see paragraphs 0006-0015), the IP services entity comprising: a plurality of Network Address Translation (NAT) (e.g., first and second address translators 24' and 24", see FIG. 4 and paragraph 0040), each of the NAT (e.g., first and second address translators 24' and 24) corresponding to a separate enterprise (e.g., Domain 1 and Domain 2, respectively, see FIGS. 2, 4, 6 and 7) for providing header IP addresses and payload IP addresses which are unique to the services entity (e.g., see paragraph 0033 regarding translator 24 modifying addresses in both payload and header, and see paragraphs 0032-0033 regarding the private IP addresses originally comprising the same addresses, but being translated, implicitly to a unique address, to correctly route the data packets to the appropriate gateway) for voice packets (e.g., see abstract regarding VoIP packets; see also paragraph 0012 regarding VoIP calls over packet-switched network) corresponding to each separate enterprise endpoint (e.g., enterprise endpoints 20 and 22 in Domain 1 and Domain 2, respectively, see FIG. 4).

Further, while Bradd may not specifically disclose the IP services entity (e.g., translating/routing entity 24/44/120) is a switch, or the plurality of NAT (e.g., first and second address translators 24' and 24") comprise respective tables, Bradd clearly implies such an implementation, and in the alternative, such an implementation would have been obvious to one of ordinary skill in the art for reasons discussed as follows. That is, Bradd teaches that the address translation may be embodied within a single IP services device (e.g., see paragraph 0011, lines 1-2; see also claim 2). Furthermore, Bradd teaches such address translators embodied in a single device also "interconnect four separate domains" (see paragraph 0040), wherein an interconnection clearly implies the use of a switching entity such as a switch. Still further, Bradd

teaches that such a single IP services device with interconnecting-domain functionality is within a "packet-switched network" (see claim 13). Thus, one of ordinary skill in the art would readily recognize that the teachings of Bradd imply, and in the alternative that it would have been obvious to one of ordinary skill in the art, that the IP services entity (e.g., translating/routing entity 24/44/120) in Bradd is a switch, since it is well known in the art that a single IP services device with interconnecting-domain functionality within a packet-switched network, such as that taught by Bradd, would implicitly provide a switching function and would accordingly be embodied as a switch.

Additionally, Bradd teaches the plurality of NAT (e.g., first and second address translators 24' and 24") are each used to generate a "mapping" (see paragraphs 0013, 0038 and 0045, as well as claims 11 and 12), which clearly implies implementation via tables. Further, Examiner takes official notice that a "mapping" within an address translator is well known in the art to be performed by a table. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to implement the address translator mapping of Bradd in address translator tables since the mapping in Bradd clearly implies implementation via tables and since a mapping within an address translator is well known in the art to be performed by a table.

Regarding claims 2 and 3, the unique header and payload IP addresses in Bradd discussed above regarding claim 1 (e.g., see paragraph 0033 regarding translator 24 modifying addresses in both payload and header, and see paragraphs 0032-0033 regarding the private IP addresses originally comprising the same addresses, but being translated, implicitly to a unique address, to correctly route the data packets to the appropriate gateway) implicitly come from a source within the services entity (e.g., translating/routing entity 24/44/120) for providing the above-described

mapping implicitly via tables (see paragraphs 0013, 0038 and 0045, as well as claims 11 and 12). While Bradd may not specifically disclose this source of addresses is either a static pool or a dynamic pool, Examiner takes official notice that address mapping via tables is well known in the art to comprise either static or dynamic pools. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to implement either static or dynamic pools for providing the above-described mapping implicitly via tables (see paragraphs 0013, 0038 and 0045, as well as claims 11 and 12) since it is well known in the art to comprise either static or dynamic pools.

Regarding claim 4, Bradd teaches unique header and payload IP addresses may be private to the service provider (e.g., see paragraph 0033 regarding payload and header and see claim 5 regarding private IP addresses; see also paragraphs 0006-0015 regarding the teachings of Bradd overcoming the prior art's inability to accommodate both public and private addresses).

Regarding claim 5, Bradd teaches the unique header and payload addresses may comprise public addresses (e.g., see paragraphs 0043-0045 regarding public; see also paragraphs 0006-0015 regarding the teachings of Bradd overcoming the prior art's inability to accommodate both public and private addresses).

Regarding claim 6, Bradd teaches the unique header and payload IP addresses may comprise source addresses (e.g., see paragraph 0033 regarding "media gateway 6 [in Domain 1] views virtual gateway 26 [also in Domain 1] as its destination terminal" despite the packet having a destination at Domain 2, wherein the addressing is that of the source's Domain).

Regarding claim 7, Bradd teaches a Voice over Internet Protocol (VoIP) application-aware Internet Protocol (IP) services entity (e.g., translating/routing entity 24/44/120, see FIGS.

2, 4, 6 and 7, see also paragraph 0038 wherein translating entity 24 comprises routing) for providing Network Address Translation (NAT) for VoIP packets moving between enterprise private networks and a service provider intermediate network, wherein the enterprise private networks include a plurality of endpoints having private IP addresses which are not unique to the service provider intermediate network (e.g., see paragraphs 0006-0015), the IP services entity comprising: a first NAT (e.g., first address translator 24', see FIG. 4 and paragraph 0040) stored in a first space (e.g., see FIG. 4 regarding 24' in a space separate from 24") for providing NAT for VoIP packets (e.g., see abstract regarding VoIP packets; see also paragraph 0012 regarding VoIP calls over packet-switched network) having header and payload IP addresses (e.g., see paragraphs 0032-0033) corresponding to a first enterprise private network (e.g., Domain 1, see FIGS. 2, 4, 6 and 7); and a second NAT (e.g., second address translator 24", see FIG. 4 and paragraph 0040) stored in a second space (e.g., see FIG. 4 regarding 24' in a space separate from 24") for providing NAT for VoIP packets (e.g., see abstract regarding VoIP packets; see also paragraph 0012 regarding VoIP calls over packet-switched network) having header and payload IP addresses (e.g., see paragraphs 0032-0033) corresponding to a second enterprise private network (e.g., Domain 2, see FIGS. 2, 4, 6 and 7).

Further, while Bradd may not specifically disclose the IP services entity (e.g., translating/routing entity 24/44/120) is a switch, or the first and second NAT (e.g., first and second address translators 24' and 24") comprise respective first and second tables in respective memory space, Bradd clearly implies such an implementation, and in the alternative, such an implementation would have been obvious to one of ordinary skill in the art for reasons discussed as follows. That is, Bradd teaches that the address translation may be embodied within a single

IP services device (e.g., see paragraph 0011, lines 1-2; see also claim 2). Furthermore, Bradd teaches such address translators embodied in a single device also "interconnect four separate domains" (see paragraph 0040), wherein an interconnection clearly implies the use of a switching entity such as a switch. Still further, Bradd teaches that such a single IP services device with interconnecting-domain functionality is within a "packet-switched network" (see claim 13). Thus, one of ordinary skill in the art would readily recognize that the teachings of Bradd imply, and in the alternative that it would have been obvious to one of ordinary skill in the art, that the IP services entity (e.g., translating/routing entity 24/44/120) in Bradd is a switch, since it is well known in the art that a single IP services device with interconnecting-domain functionality within a packet-switched network, such as that taught by Bradd, would implicitly provide a switching function and would accordingly be embodied as a switch.

Additionally, Bradd teaches the first and second NAT (e.g., first and second address translators 24' and 24") are used to generate a "mapping" (see paragraphs 0013, 0038 and 0045, as well as claims 11 and 12), which clearly implies implementation via tables stored in memory. Further, Examiner takes official notice that a "mapping" within an address translator is well known in the art to be performed by a table stored in memory. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to implement the address translator mapping of Bradd in address translator tables stored in memory since the mapping in Bradd clearly implies implementation via tables and since a mapping within an address translator is well known in the art to be performed by a table stored in memory.

Regarding claim 8, Bradd teaches the first and second NAT translate the private enterprise network header and payload addresses to header and payload addresses which are

unique to the service provider intermediate network (e.g., see paragraph 0033 regarding translator 24 modifying addresses in both payload and header, and see paragraphs 0032-0033 regarding the private IP addresses originally comprising the same addresses, but being translated, implicitly to a unique address, to correctly route the data packets to the appropriate gateway).

Regarding claim 9, Bradd teaches the unique header and payload addresses may be private IP addresses to the service provider intermediate network (e.g., see paragraph 0033 regarding payload and header and see claim 5 regarding private IP addresses; see also paragraphs 0006-0015 regarding the teachings of Bradd overcoming the prior art's inability to accommodate both public and private addresses).

Regarding claim 10, Bradd teaches the unique header and payload IP addresses may comprise public IP addresses (e.g., see paragraphs 0043-0045 regarding public; see also paragraphs 0006-0015 regarding the teachings of Bradd overcoming the prior art's inability to accommodate both public and private addresses).

Regarding claim 11, Bradd teaches the first and second NAT translate header and payload IP addresses which are unique to the service provider intermediate network, and to the private enterprise network header payload IP addresses (e.g., see paragraph 0033 regarding translator 24 modifying addresses in both payload and header, and see paragraphs 0032-0033 regarding the private IP addresses originally comprising the same addresses, but being translated, implicitly to an address unique to Domains 1 and 2, to correctly route the data packets to the appropriate gateway).

Regarding claim 12, Bradd teaches the unique header and payload IP addresses may be private addresses to the service provider intermediate network (e.g., see paragraph 0033

regarding payload and header and see claim 5 regarding private IP addresses; see also paragraphs 0006-0015 regarding the teachings of Bradd overcoming the prior art's inability to accommodate both public and private addresses).

Regarding claim 13, Bradd teaches the unique header and payload IP addresses may comprise public IP addresses (e.g., see paragraphs 0043-0045 regarding public; see also paragraphs 0006-0015 regarding the teachings of Bradd overcoming the prior art's inability to accommodate both public and private addresses).

Regarding claim 14, Bradd teaches a method of Network Address Translation (NAT) in an intermediate service provider network for Internet Protocol (IP) voice traffic packets corresponding to a plurality of private enterprise networks include a plurality of endpoints having private IP addresses and more than one of the private networks use at least some of the same non-unique private IP addresses (e.g., see paragraphs 0006-0015), the method comprising: providing an IP services entity (e.g., translating/routing entity 24/44/120, see FIGS. 2, 4, 6 and 7, see also paragraph 0038 wherein translating entity 24 comprises routing) having first and second NAT (e.g., first and second address translators 24' and "24", see FIG. 4 and paragraph 0040); receiving VoIP packets (e.g., see abstract regarding VoIP packets; see also paragraph 0012 regarding VoIP calls over packet-switched network) from a first private enterprise network (e.g., Domain 1, see FIGS. 2, 4, 6 and 7) having headers and payloads with non-unique private IP addresses (e.g., see paragraph 0032 regarding both first and second domain gateways comprising identical IP addresses; see also paragraph 0010 regarding first and second address ranges for respective first and second networks overlapping; see also paragraph 0033 regarding translator 24 modifying addresses in both payload and header; see also claim 5 regarding IP addresses

being private IP addresses); translating the private header and payload IP addresses to IP addresses which are unique to the intermediate network (e.g., see paragraph 0033 regarding translator 24 modifying addresses in both payload and header, and see paragraphs 0032-0033 regarding the private IP addresses originally comprising the same addresses, but being translated, implicitly to a unique address, to correctly route the data packets to the appropriate gateway) using the first NAT (e.g., first translator 24', see paragraph 0040); receiving VoIP packets from a second private enterprise network (e.g., Domain 2, see FIGS. 2, 4, 6 and 7) having headers and payloads with non-unique private IP addresses (e.g., see paragraph 0032 regarding both first and second domain gateways comprising identical IP addresses; see also paragraph 0010 regarding first and second address ranges for respective first and second networks overlapping; see also paragraph 0033 regarding translator 24 modifying addresses in both payload and header; see also claim 5 regarding IP addresses being private IP addresses); and translating the private header and payload IP addresses to IP addresses which are unique to the intermediate network (e.g., see paragraph 0033 regarding translator 24 modifying addresses in both payload and header, and see paragraphs 0032-0033 regarding the private IP addresses originally comprising the same addresses, but being translated to correctly route the data packets to the appropriate gateway) using the second NAT (e.g., second translator 24", see paragraph 0040).

Further, while Bradd may not specifically disclose the IP services entity (e.g., translating/routing entity 24/44/120) is a switch, or the first and second NAT (e.g., first and second address translators 24' and 24") comprise respective first and second tables, Bradd clearly implies such an implementation, and in the alternative, such an implementation would have been obvious to one of ordinary skill in the art for reasons discussed as follows. That is,

Bradd teaches that the address translation may be embodied within a single IP services device (e.g., see paragraph 0011, lines 1-2; see also claim 2). Furthermore, Bradd teaches such address translators embodied in a single device also "interconnect four separate domains" (see paragraph 0040), wherein an interconnection clearly implies the use of a switching entity such as a switch. Still further, Bradd teaches that such a single IP services device with interconnecting-domain functionality is within a "packet-switched network" (see claim 13). Thus, one of ordinary skill in the art would readily recognize that the teachings of Bradd imply, and in the alternative that it would have been obvious to one of ordinary skill in the art, that the IP services entity (e.g., translating/routing entity 24/44/120) in Bradd is a switch, since it is well known in the art that a single IP services device with interconnecting-domain functionality within a packet-switched network, such as that taught by Bradd, would implicitly provide a switching function and would accordingly be embodied as a switch.

Additionally, Bradd teaches the first and second NAT (e.g., first and second address translators 24' and 24") are used to generate a "mapping" (see paragraphs 0013, 0038 and 0045, as well as claims 11 and 12), which clearly implies implementation via tables. Further, Examiner takes official notice that a "mapping" within an address translator is well known in the art to be performed by a table. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to implement the address translator mapping of Bradd in address translator tables since the mapping in Bradd clearly implies implementation via tables and since a mapping within an address translator is well known in the art to be performed by a table.

Regarding claim 15, Bradd teaches the unique header and payload IP addresses may be private addresses to the service provider intermediate network (e.g., see paragraph 0033

regarding payload and header and see claim 5 regarding private IP addresses; see also paragraphs 0006-0015 regarding the teachings of Bradd overcoming the prior art's inability to accommodate both public and private addresses).

Regarding claim 16, Bradd teaches the unique header and payload IP addresses may comprise public IP addresses (e.g., see paragraphs 0043-0045 regarding public; see also paragraphs 0006-0015 regarding the teachings of Bradd overcoming the prior art's inability to accommodate both public and private addresses).

Regarding claim 17, Bradd teaches the unique header and payload IP addresses may comprise source addresses (e.g., see paragraph 0033 regarding "media gateway 6 [in Domain 1] views virtual gateway 26 [also in Domain 1] as its destination terminal" despite the packet having a destination at Domain 2, wherein the addressing is that of the source's Domain).

Regarding claim 18, Bradd teaches the unique header and payload IP addresses may comprise destination addresses (e.g., see paragraph 0033 regarding "destination address").

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Nos. 6,954,790 to Forslow and 6,822,957 to Schuster et al., as well as U.S. Patent Application Publication No. US 2003/0093481 A1 by Mitchell et al. each disclose methods of address translation pertinent to applicant's claimed invention.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M. Philpott whose telephone number is 571.272.3162. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571.272.3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Justin M Philpott

CHI PHAM
SUPERVISORY PATENT EXAMINER
3/20/06